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ABSTRACT

Visual sequences should be the first visual literacy exercises for reasons that are physio-psychological, semantic, and curricular. In infancy, vision is undifferentiated and undetailed. The number of details a child sees increases with age. Therefore, a series of pictures, rather than one photograph which tells a whole story, is more appropriate to a child's capacity. Although a sequence prepared by the child himself may be more meaningful than one prepared by another, a child may first have to rearrange other people's sequences before he understands how to make one himself. Sequences may also help to keep visual perception sharp rather than subordinate it to verbal facility, as now often happens. The semantic reason comes from the belief that people too often look at words as things, not as the representation of things. A series of pictures, which arrest motion, is more likely to be seen as representative. Finally, photo sequences can be used as metaphors to constructing sentences; they help the science student portray processes accurately; they help art students see feelingly. They are useful in many other disciplines as well. (JK)

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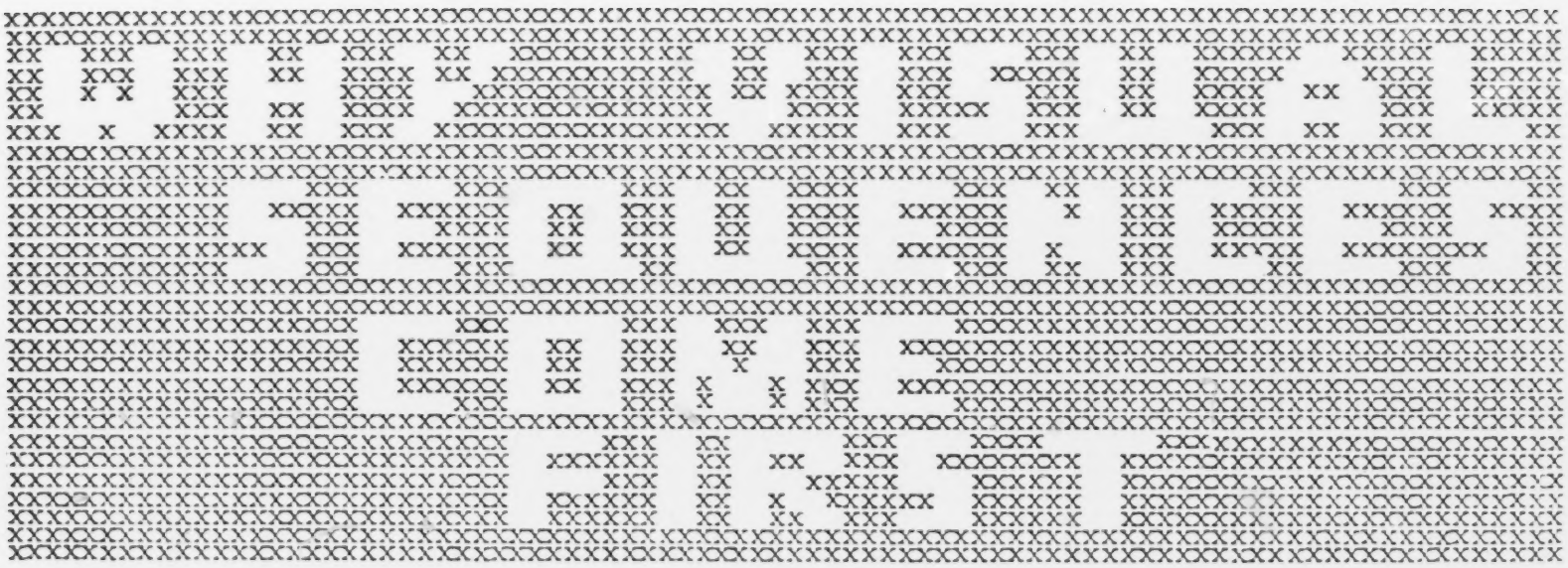

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Visual sequences are the first visual literacy exercise for many reasons. These reasons fall into three main categories: 1) psycho-physiological, 2) semantic, 3) curricular. Let us approach each category and survey briefly its support for the primacy of photo-sequential exercises.

Psycho-Physiological:

Rudolph Arnheim made a statement about art which may well apply to science, math, and the remainder of the curricular structure in the United States. In his book entitled Film, Arnheim states:

> The only way to understand art is to start from the simplest forms of sensory-psychological impression and to regard visual and auditory art as sublimate forms of seeing and hearing.
>
> (Film, Arnheim, Rudolph. London, Faber & Faber, Ltd. 1933.)

We will, therefore, start with what we know of sensory-psychological impressions at a simple level and proceed to more complex visual literacy ideas.

Jerome Bruner reports, in Studies in Cognitive Growth, that vision in infancy is undifferentiated and undetailed. He refers to this as the "global" trait in the development of vision. Global units start long before a child recognizes pictures as representatives of global components. The number of details seen by a child increases with age. Bruner says:

> Somewhere between the sixth and eighth year there is an increase in the number of details reported, but it is only around the ninth year that the details are integrated into a whole pattern.
>
> (Studies in Cognitive Growth, J. Bruner, et. al., New York, 1966, p. 24), John Wiley & Sons, Inc.

When children begin to communicate with visuals, therefore, they must be given the opportunity to deal with "global"

units, whereby discriminating the various details is unnecessary. For this purpose, groups of pictures that represent sequential actions should be studied, rather than individual pictures and purport to display a whole story in one representation. Photo-sequential utterances use the individual photograph as one "global" component in a semantic flow of visual ideas, rather than as a locus of numerous specific details.

The primary benefit from dealing with the "global" unit in a photo-sequence is that a child learns to record and interpret the Gestalt, or total configuration, of a photographic unit. Thus, the child learns to "read" visuals. Good verbal readers read whole words, even whole groups of words, as Gestalts and understand the meaning almost instantaneously. Poor readers, however, differentiate the various letters which the word comprises and are, therefore, slower to grasp the meaning. If children are to be expected to record and interpret the fleeting visuals of motion pictures and television programs, they must be trained to become good visual "readers" through the use of photo-sequences.

Younger children should not be forced to differentiate numerous details in a given still photograph because this involves an abrupt change from their daily mode of visual grouping and differentiation. By leading the child gradually to greater awareness of the processes of his visual world, we develop more durable attitudes and approaches to the process world. Reading visuals, however, may be impossible without corroboration of the sensory impressions of vision. Bruner and others report that a child fails to understand visual impressions until he has

experienced objects of his visual array through other sensory channels. This means that an infant has to touch, taste, hear, and experience through other channels the people, toys, and other objects which are to become meaningful to him. Dr. G. N. Getman, Director of Research in Child Development at the Pathway School in Norristown, Pennsylvania, has unofficially stated that he believes a child does not understand anything of his visual world until he has corroborated it through some other-sensory channel. How does this relate to the child's experiences with photo sequences?

The child who deals extensively with photographs prepared by others has an experience only vaguely meaningful. If he is given the opportunity to make the photographic sequences himself, he may have other-sensory experiences with the objects, people, animals, and other elements of his visual environment that give extra meaning and emotional value to the visual ideas that he manipulates. When the child begins his visual literacy training, however, he cannot use visual sequences he has prepared himself because he may not have prepared any and may not have any basis for preparing one. Former experience is an unsegmented totality. Learning may develop the child's ability to arrest particularly representative segments of the otherwise continuous experience. Therefore, he may be given a prepared visual sequence and may be urged to manipulate the sequence into an order which is meaningful to him. The act of manipulation of the pictures allows the child an other-sensory experience that is second only to the act of manipulating the objects or persons in a real-world experience. However, the sequences prepared by most adults may too frequently be shoddy surrogates for the child's experiences.

The final psycho-physical aspect of the primacy of photo-sequencing relates to the current emphasis of a child's education on language skill. When a child begins his formal education, he is exposed to experiences based upon a conceptual system whose foundations are in language. Indeed, language becomes the most highly emphasized aspect of the child's education. Jerome S. Bruner says:

> Language becomes the preferred mode of grouping, and as time goes on imagery is used less and less and 'decays with disuse'....The 'low-imagery child,' though intellectually more supple, seems progressively to lose his ability to preserve the distinctive quality of perceptual experience as such. He becomes slower in learning names for objects and less accurate in reproducing visual stimuli.
>
> (Studies in Cognitive Growth, J. Bruner, et. al., New York, 1966, p. 27), John Wiley & Sons, Inc.

He goes on to say that the conceptualizing ability of the "low-imagery child" is paid for by a conventionalization of memory and by a penchant for stereotyping. When Bruner cites the low-imagery child as more intellectually supple, he probably speaks of intellect as measured by conventional testing instruments. Indeed, the visual dimension of intellect is not yet very well defined, but may be a locus of great differences in learning abilities among both children and adults.

The declining perceptual acuity concomitant with high emphasis upon language skills leads to low perceptual recall as an adult. This involves problems in encoding visual information and making it correspond with verbal information. The difficulties in encoding and decoding visual information have been dealt with by Murray Glanzer and William H. Clark in what they call the "verbal

loop hypothesis." In the Journal of Verbal Learning and Verbal Behavior, Glanzer and Murray report:

> The S(ubject) carrying out a perceptual recall task puts the information through a verbal loop.
>
> 1. He translates the visual information into a series of words.
> 2. He holds the verbalization and makes his final response on the basis of that.
>
> Under this hypothesis, if either of these steps is interfered with, the S cannot make an accurate final response.
>
> (Journal of Verbal Learning and Verbal Behavior. Academic Press, Inc., 111 Fifth Avenue, New York, N. Y. 10003. 1962, pp. 289-99) (Author's parenthesis)

Therefore, not enough emphasis is placed upon perceptual education in the present orientation of classroom teachers. In addition, once the verbal orientation and visual subordination have been internalized by the child, the child can perpetuate the process which dulls his visual acuity and recall.

By leading the child gradually from "global" to increasingly differentiate visual perception through the use of visual sequences, we may be helping to preserve and increase "the distinctive quality of perceptual experience as such."

Semantic:

Semanticists, such as Alfred Korzybski, S. I. Hayakawa, and Wendell Johnson, hold that a major reason for psychological disorientation may be that people tend to look upon words as things, rather than as representations of things. Such static conceptions of language lead to fixations and trauma that disorient and trouble many lives. Recognition of the representative nature of language and other modes of systematic intentional communication is a necessary element of the education of children. This may be especially true in relation to vision.

S. I. Hayakawa included in his book, The Use and Misuse of Language, an article called "The Language of Pictures" by Paul Wendt. Professor Wendt states:

> Pictures are, of course, surrogates for experience. As such they may be said to be closer to extensional meaning than to intensional meaning. At least their position lies between these two. They are not always close to the actual experience even though the school of "you press the button and we do the rest" implies that merely pointing the camera at Aunt Minnie results in a good likeness to cherish when she is not around. Neither are pictures symbols as words are symbols, since even Aunt Minnie's nephew, age four, can recognize her snapshot though he cannot read.
>
> ("The Language of Pictures," The Use and Misuse of Language, Hayakawa, S. I., New York, Fawcett World Library: Crest, Gold Medal & Premier Books. 1967.)

If you show the picture of Aunt Minnie to a child and ask "What's this?" he will probably tell you, "That's Aunt Minnie." Somewhere in the back of his mind, the child knows that the picture is devoid of the idiosyncracies of Aunt Minnie, because it doesn't show her doing what she always did.

If you showed the same child a photo-sequential description of Aunt Minnie's process of canning sweet pickles, the child would probably tell you that the pictures showed what Aunt Minnie always did. In the latter case, the child is closer to semantic adjustment than he is in the first. Although the pictures evoke the connotations of the sweetness of the pickles and the warmth of the kitchen and the wetness of the child's hands as he washed canning jars to help Aunt Minnie, the child knows that the pictures and the process are distinctly different. The series of pictures is the arresting of certain motions and arrays of space in time to preserve memories of the process. The series represents. The experiences themselves involved other senses than vision. The experiences

engaged the total being. The pictures merely stimulate recollections of the other senses' perceptions and the real motions of the personally involving processes that are represented.

Photo-visual sequences, therefore, reveal the process nature of pictorial communication. The semantics of visuals facilitate teaching the semantics of verbal language in a unique manner. Through manipulation of the visual sequences, students learn the variability of the semantic process and thereby learn the variability of the descriptive, narrative, and expository vehicles through which we communicate ideas about the semantic process.

Curricular:

Curricula are presently beginning to consider units that attend to the developmental and perceptual aspects of the child's readiness for the educational process. Because we thought the problem had to be in the end organ, the eye, we have tested the clarity of a child's sight to ascertain "why Johnny can't read." Characteristically, we find that the child with difficulty in reading has the expected 20/20 acuity. Somehow we must find a way systematically to plan for increasing Johnny's general visual skills over and above the 20/20 acuity. There are many indications this training toward visual literacy may help poor Johnny to become a better reader, a more enthusiastic student, and a better communicator. BUT WHERE DO WE BEGIN?

We begin by writing behavioral objectives for visual training. From the behavioral objectives, two sets of data may be generated. The first set of data relates to the exercises that help children to achieve the behavioral objectives. The second set of data relates to the measurement techniques that will be used to

ascertain whether the children have reached the levels of behavioral proficiency outlined by the objectives. Our behavioral objectives, exercises in proficiency, and measurement techniques will vary depending upon the subject area in which we introduce the visual literacy training. Necessarily, however, our behavioral objectives will begin at an elementary level, with very fundamental skills, and will proceed to more difficult and complex tasks. For this reason, photo-sequential visual essays will be the best place to start. We have already surveyed the psycho-physiological and semantic reasons for our starting point. The curricular reasons for starting here are numerous. "Relevance" might be a good place to start.

In the language arts class, the creation of short photo-visual sequences is relevant to the creation of sentences. Through beginning to understand the grammar of visuals, the student more easily grasps the grammar of language. It may be said with some certainty, that an ungrammatical picture, unlike an ungrammatical sentence, cannot be understood. If a picture does not communicate anything but a sense of frustration and misunderstanding, the child will soon know that he has created an ungrammatical unit. If a sequence of pictures cannot be manipulated into meaningful order, the child need not be told that he must go back to the drawing board and start again.

The child in science class can use photo-visual sequences to describe various processes more quickly and deftly than he could through his own artwork. Whereby the conventional situation would call for the artistry of the child in creating reproductions of protozoa under the microscope, or elements of a dissection, or various processes such as meiosis and mitosis, the child may capture

these very quickly and easily with the use of a simple camera. In fact, the child can look more closely and accurately at the sequential process nature of the world around him through the assistance of the glass-eyed cyclops with the cellulose spine.

Artless children in art class may fail because they can't <u>see feelingly</u>. Though art should provide children with life-long techniques for externalizing their internal imagistic feelings, often artless children go away without such techniques. They consequently miss out in developing a set of attitudes and abilities that make life infinitely more enjoyable. For such children, photo-sequential experiences might begin to develop artistic insights that could not be gained any other way. The children may then acquire abilities that they will use later in life to create visually, although they may never be able to draw or paint or sculpt.

Foreign language teachers may use photo-sequential compositions made by students to draw from the students attitudes favorable to the learning of meaningful vocabularies in other languages. If a child develops a vocabulary that is closely related to the people, objects, animals, and experiences that are dear to him, he is more likely to take great interest in his ability to communicate through another verbal or visual medium. Social science students can study local social, economic, and political phenomena through this visual medium. Industrial arts, graphics, machining, physical education, drafting, business, and many other disciplines can involve students more deeply by allowing them to record in non-verbal form their experiences in the discipline.

In short, the curricular reasons for including visual literacy in the classroom activities are numerous. Our job now is to survey our curricular designs, to assess their visual properties, to create behavioral objectives consistent with our curricular contents, to design student exercises for meeting the behavioral objectives, and to implement visual literacy in the classroom. It may be, that no inventory of cameras, film, flashcubes, or photo-sequential aids will be needed. Kirk Scheufele* of North Salinas High School in California reported that his students provided all of the equipment necessary to visualize certain aspects of their studies. Mrs. Josephine Kehoe* of John Marshall High School in Rochester, New York, found that the same was true. We can only find out what's available by asking the students. Thereafter, the students show us the processes their eyes see. This they may do in the language of the eye. Writing we will leave to the language of the ear.

* Ascertained through correspondence and personal interview.